

Two New Species of *Sabacon* from Sichuan Province, China (Arachnida: Opiliones: Sabaconidae)

NOBUO TSURUSAKI¹ and DAXIANG SONG²

¹Department of Biology, Faculty of Education, Tottori University, Tottori,
680 Japan, and ²Institute of Zoology, Academia Sinica,
19 Zhongguancun Lu, Haitien, Beijing, China

ABSTRACT—Two new species of the genus *Sabacon*, *S. martensi* n. sp. and *S. gonggashan* n. sp. are described based on the specimens collected from Mt. Gong-ga-shan of the Da-xue-shan Mountains, Sichuan Province, southern China. The two species are similar to each other and to some species of the genus from Nepal-Himalayas (*S. chomolongmae*, *S. dhaulagiri*, and *S. unicornis*) and Japan (*S. dentipalpe* and *S. imamurai*) in having dorsolateral spurs on the fixed fingers of male chelicerae.

INTRODUCTION

The genus *Sabacon* (Sabaconidae, Ischyropsalidoidea, Palpatores) is a group of soil harvestmen, with about 40 species, and is disjunctively found in the Holarctic regions. The distribution covers the eastern (2 spp.) and western areas (5 plus some spp.) of North America (7 described spp. in total [5, 1], Cokendolpher pers. comm., 1992), southern part of Europe (6 spp. [3]), the Nepal-Himalayas (7 spp. [2]), Siberia (2 spp. [4]), and East Asia including Japan (10 spp. [6, 7]). From China, however, only one species, *Sabacon okadai* Suzuki, has been recorded [6].

During an examination of the opilionids collected from the Da-xue-shan Mountains, Sichuan Province, southern China, we found two undescribed species of the genus. Descriptions of the species will be presented here.

All the specimens examined are deposited in the collection of the Institute of Zoology, Academia Sinica, Beijing.

Genus *Sabacon* Simon, 1879

Sabacon martensi n. sp.

(Figs. 1–2)

Material. Male holotype, West slope of Mt.

Gong-ga-shan, Kangding, Sichuan Province, China, 2 September 1982, Zhang Xue-zhong leg.

Measurements (in mm). Male holotype: cephalothorax, 0.96 long, total body length 2.3.

Length of palp and legs: Palp (femur/patella/tibia/tarsus; total): 0.88/0.98/1.10/0.50; 3.46. Legs (femur/patella/tibia/metatarsus/tarsus; total): Leg I: 1.75/0.79/1.78/2.40/2.40; 9.12. Leg II: 2.57/0.99/2.80/3.76/4.10; 14.22. Leg III: 1.68/0.78/1.60/2.73/2.80; 9.59. Leg IV: 2.32/0.94/2.24/3.60/3.72; 12.82.

Male. Body (Fig. 1A–B) relatively small, poorly sclerotized. Eye tubercle low, slightly canaliculate, unarmed. Second thoracic tergite with pair of postocular spines. Abdominal tergites represented by small, weakly sclerotized plates (scutum laminatum/dissectum) with few scattered setae. Abdominal sternites poorly sclerotized, with minute black setae. Chelicera (Fig. 1C–E) with basal article flat, dorsally not elevated; fixed finger dorsolaterally with a conspicuous black spur, ventrally with a small knob. Palp (Fig. 1F) relatively slender, patella distally with row of six ventromesal teeth.

Penis (Fig. 2) 2.13 mm long (including glans), 0.16 mm wide at base; pigmented, laterally with a row of several denticles on each side.

Coloration: Venter brownish white, with coxae, abdominal sclerites pale brown; dorsum brownish white with tergites and cephalothorax brown. Eye tubercle dark brown. Chelicerae, palps and legs

Accepted October 15, 1992

Received September 17, 1992

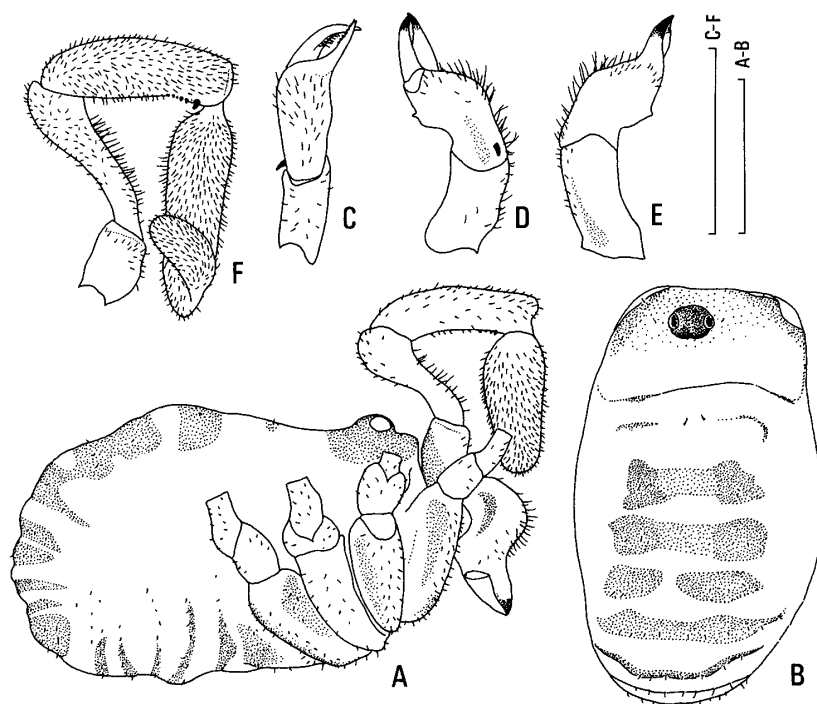
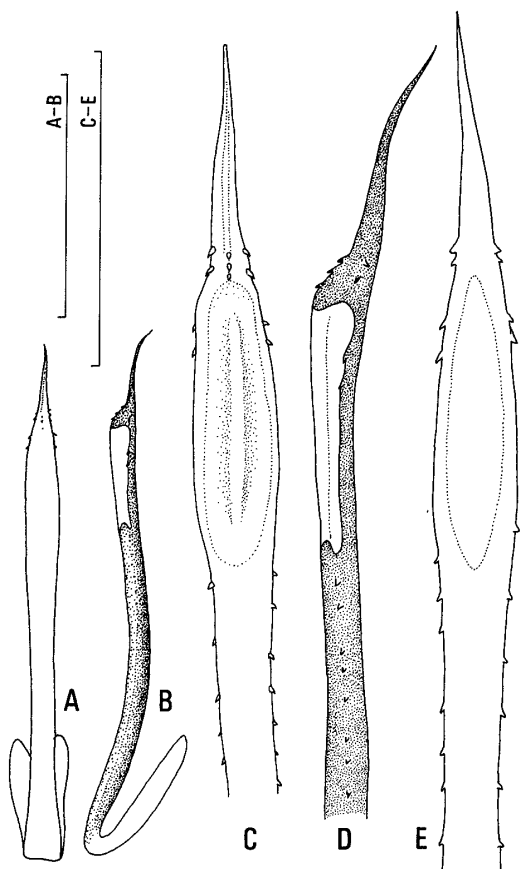


FIG. 1. *Sabacon martensi* n. sp., holotype male. A-B: Lateral (A) and dorsal (B) views of body. C-E: Dorsal (C), ectal (D), and mesal (E) views of left chelicera. F: Mesal view of left palp. Scales=1 mm.



light brown.

Female. Unknown.

Distribution: Known only from the type locality.

Etymology. The specific epithet is given in honor of Prof. Jochen Martens, Mainz, Germany, for his eminent contributions to the systematics of *Sabacon* species.

Remarks. This species has affinities with some species of the genus from the Nepal-Himalayas and Japan (*S. chomolongmae*, *S. dhaulagiri*, and *S. dentipalpe*, etc.). These species share a dorso-lateral spur on both chelicerae and a similar morphology in the penes. The new species, however, can be easily distinguished from any other described species of the genus, by its penis having a row of denticles on both lateral margins of the shaft.

FIG. 2. *Sabacon martensi* n. sp., holotype male. A-B: Ventral and lateral views of penis. C-E: Ventral (C), lateral (D), and dorsal (E) views of distal part of penis. Scales=1 mm for A-B, 0.5 mm for C-E.

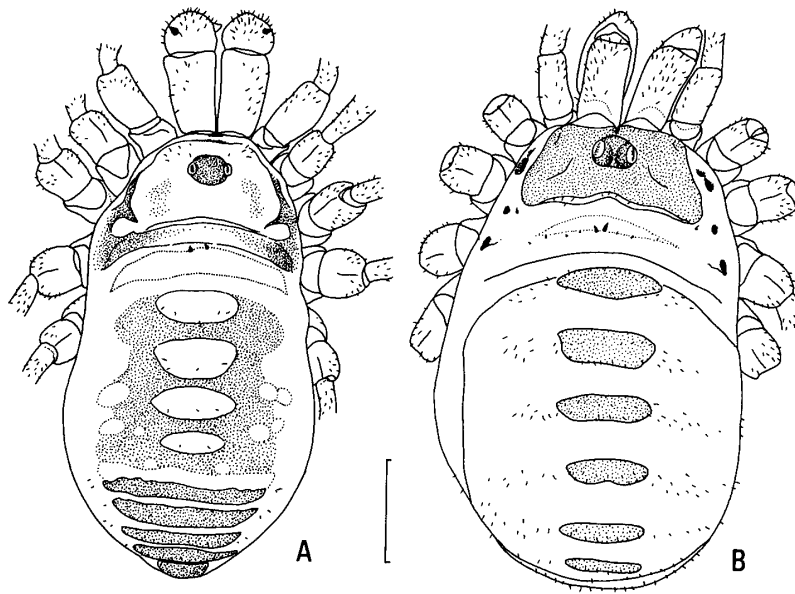


FIG. 3. *Sabacon gonggashan* n. sp. Dorsal view of body. A, holotype male; B, paratype female. Scale=1 mm.

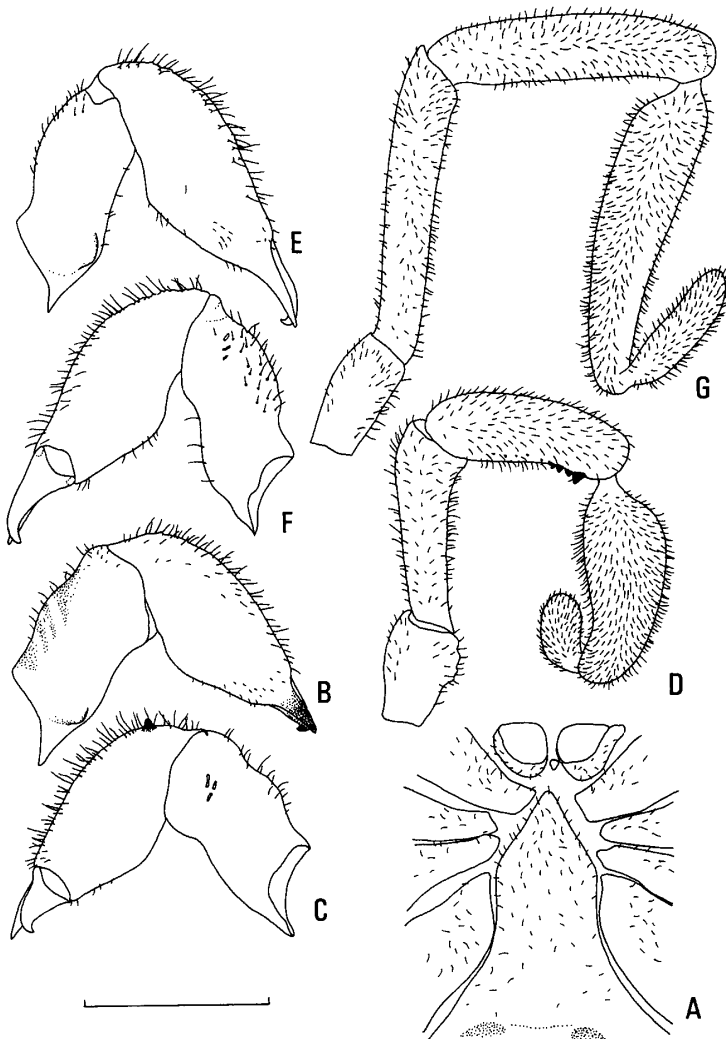


FIG. 4. *Sabacon gonggashan* n. sp. A, Anterior ventral surface of male (holotype) body. B-C: Mesal (B) and ectal (C) views of male left chelicera. D, Mesal view of male left palp. E-F: Mesal (E) and ectal (F) views of female (paratype) chelicera. G, Mesal view of female left palp. Scale=1 mm.

Sabacon gonggashan n. sp.

(Figs. 3–5)

Material. Male holotype, male paratype and two female paratypes, West slope of Mt. Gong-gashan, Kangding, Sichuan Province, China, 2 September 1982, Zhang Xue-zhong leg.

Measurements (in mm). Male holotype (one of the female paratypes in parentheses): cephalothorax 1.50 (1.60) long, 2.1 (2.67) wide; abdomen 2.18 (2.82) wide; total body length 4.32 (4.56).

Length of palp and legs: Palp (Fe/Pa/Ti/Ta; total): 1.05/1.06/1.12/0.56; 3.79 (1.52/1.45/1.74/0.75; 5.46). Legs (Fe/Pa/Ti/Mt/Ta; total): Leg I: 1.83/0.89/1.66/2.46/2.41; 9.25 (legs I to III of the paratype female measured are absent). Leg II: 2.16/1.00/2.20/3.08/3.88; 12.32. Leg III: 1.80/0.80/1.56/ 2.72/2.72; 9.6. Leg IV: 2.40/1.01/1.95/3.54/3.90; 12.8 (2.52/0.95/2.16/3.70/ 3.22; 12.55).

Male. Body (Fig. 3A) poorly sclerotized. Eye tubercle low, slightly canaliculate above, unarmed. Second thoracic tergite with pair of postocular spines. Abdominal tergites slightly sclerotized, with few scattered setae, disposed in a manner "scutum laminatum". Abdominal sternites weakly sclerotized, with few scattered setae. Genital operculum pointed anteriorly, set with numerous black setae (Fig. 4A). Chelicera (Figs. 4B–C) with three slit sensilla on ectal surface of basal segment; with a black cone-shaped spur on apico-ectal surface of fixed finger. Palp (Fig. 4D) relatively slender; patella with five large ventromesal teeth followed by a few small denticles. Legs short, with fine setae.

Penis (Fig. 5A–D) 2.87 mm long, simple and slender, laterally with a pair of setae near the apical end of the shaft.

Coloration: Cephalothorax yellowish brown, marked blackish brown near margins, eye tubercle brown, abdominal tergites light brown. Venter yellowish white, lightly mottled brown.

Female. Similar to male but with tergites represented by small median sclerites (Fig. 3B). Chelicera without an apico-ectal spur on fixed finger (Fig. 4E–F). Palp (Fig. 4G) slender, without ventral denticles on patella. Ovipositor (Fig. 5E), 2.09 mm long, elongate, scattered with numerous

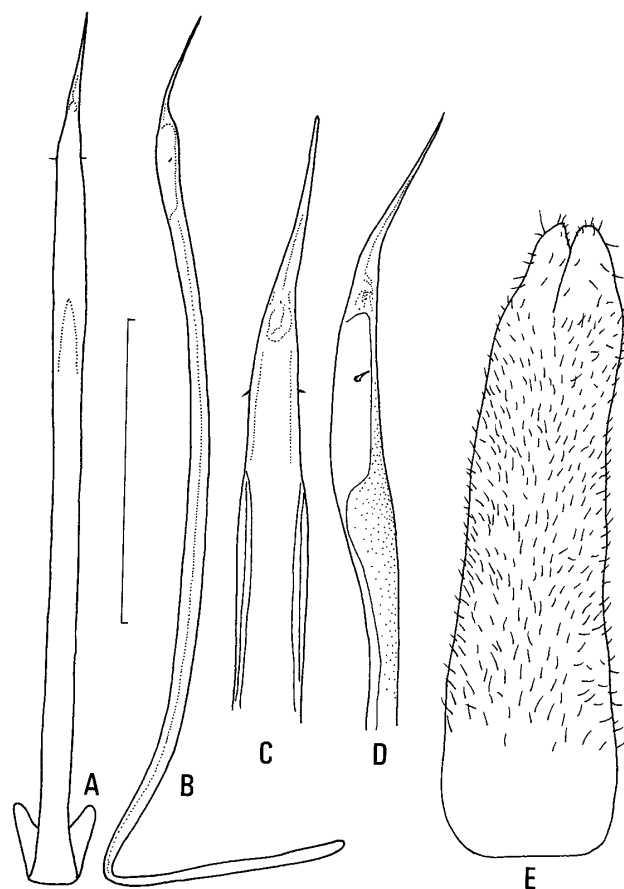


Fig. 5. *Sabacon gonggashan* n. sp. Ventral (A) and lateral (B) views of penis (holotype male). C–D: Ventral and lateral views of distal part of the penis. E, Ventral view of ovipositor (paratype female). Scale = 1 mm for A–B, E, and 0.5 mm for C–D.

short setae. Coloration as in male, but with tergites brown.

Distribution. Known only from the type locality.

Etymology. The specific epithet is a noun in apposition.

Remarks. This species is characterized by its simple and elongate penis. The presence of apico-ectal spurs on the fixed fingers of male chelicerae suggests its close affinity with *S. martensi* from the same mountain; some Nepal-Himalayan congeners, such as *Sabacon chomolongmae*, *S. dhaulagiri*, *S. unicornis* [2]; and some Japanese counterparts belonging to the *dentipalpe*-group [7] like *S. dentipalpe* and *S. imamurai*. Phylogenetic proximity to the *dentipalpe*-group, a group which was recognized by Suzuki [7] within Japanese species of *Sabacon*, is also inferred from its elongate oviposi-

tor with numerous setae. Although the present species, as well as *S. martensi*, were found on the west slope of Mt. Gong-ga-shan, it is uncertain if the two species are sympatric.

ACKNOWLEDGMENT

We are grateful to Mr. James C. Cokendolpher, Lubbock, Texas, for his review of the draft.

REFERENCES

- 1 Cokendolpher JC (1984) A new species of *Sabacon* Simon from Oregon (Arachnida: Opiliones: Sabaconidae). *Can J Zool* 62: 989–991.
- 2 Martens J (1972) Opiliones aus dem Nepal-Himalaya, I. Das Genus *Sabacon* Simon (Arachnida: Ischyropsalididae). *Senckenbergiana biol* 53: 307–323.
- 3 Martens J (1983) Europäische Arten der Gattung *Sabacon* Simon 1879 (Arachnida: Opiliones: Sabaconidae). *Senckenbergiana biol* 63: 265–296.
- 4 Martens J (1989) Sibirische Arten der Gattung *Sabacon* Simon 1879 (Arachnida: Opiliones: Sabaconidae). *Senckenbergiana biol* 69: 369–377.
- 5 Shear WA (1975) The opilionid genera *Sabacon* and *Tomicomerus* in America (Opiliones, Troguloidea, Ischyropsalididae). *J Arachnol* 3: 5–29.
- 6 Suzuki S (1941) Opiliones from Manchoukuo and North China, with a description of the interesting genus *Sabacon* (Ischyropsalididae). (In Japanese with English description and summary). *Bull Biogeogr Soc Jpn* 11: 15–22.
- 7 Suzuki S (1974) The Japanese species of the genus *Sabacon* (Arachnida, Opiliones, Ischyropsalididae). *J Sci Hiroshima Univ (B-1)* 25: 83–108.